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EXAMINER

TRUONG, CAM Y T

ART UNIT	PAPER NUMBER
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2162

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/624,726

Applicant(s)

PETCULESCU ET AL.

Examiner

Cam Y T. Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-5, 10, 12-15, 17-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 10, 12-15, 17-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant has amended claims 1, 10, 15, 20, 23, 26, 30, 34 and canceled claims 2, 11, 16 in the amendment filed on 2/20/2006.

Claims 1, 3-5, 10, 12-15, 17-38 are pending in this Office Action.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-5, 10, 12-15, 17-38 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Dekimpe does not teach "including in the processing of the query any calculated members of the database that are within the at least one of the subsets of the database, without the query specifying any calculated members of the database".

In response to applicant's argument, Dekimpe teaches only one of the fact tables is accessed to response a query. The rows of the selected fact table 402 through 422 which thus meet the criteria of keys. The above information shows that processing rows in a table of a database without the query specifying rows of other table of database (col. 10, lines 55-65). Rows of the selected table are represented as calculated members. A selected table is represented as subset.

Applicant argued that Dekimpe does not teach "an extension directing an OLAP server to automatically exclude calculated members of the input data set during the processing of the query".

In response to applicant's argument, Examiner rejected this claimed limitation in new ground of rejection as discussed in this office action.

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Applicant argued that BenHadda does not teach "parsing a received query to identifying whether the query contains a query extension that indicates specifically how calculated members should be handled in processing the query".

In response to applicant's argument, BenHadda teaches a query result that contains an extension to add the column including records in a new table as a final result when processing the query result (col. 6, lines 22-67). The above information shows that the query result that is included an extension. This extension indicates how to handle records as calculated members should be handled in processing the query results. The query result is represented as a received query.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 10, 15 recite the limitation "the encompassed calculated members" in page 5, line 9; page 6, line 10; page 7, lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

Dependents claims of claims 1, 10 and 15 are rejected under the same basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 10, 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by BenHadda et al (or hereinafter "Ben") (US 6366904).

As to claims 1 and 10, BenHadda teaches a computerized method for processing a query directed to a multidimensional database (fig.2):

"determining a subset of the database for each member of an input data set specified by the query" as (col. 6, lines 15-30);

"processing the query using any calculated members of the database that is within at least one of the subsets of the database, without the query specifying any calculated members of the database" as (col. 6, lines 22-45);

"wherein processing the query includes generating an output data set to include the members of the input data set and the encompassed calculated members of the data" as (col. 6, lines 47-65, fig. 3).

As to claim 34, Ben teaches the claimed limitations:

"receiving a query specifying an input data set" as (col. 6, lines 15-25);

"the query indicating that calculated members of the database are used, and the query not specifying any calculated members of the database" as (col. 6, lines 15-22, fig. 2);

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“determining a subset of the database for each member of the input data set specified by the query” as (col. 6, lines 15-30, fig. 3);

“identifying if there are any calculated members of the database corresponding to the subsets of the database” as (col. 6, lines 22-45);

“processing the query, if there are any calculated members of the database corresponding to the subsets of the database, using the identified calculated members” as (col. 6, lines 47-65, fig.3);

“wherein processing the query includes generating an output data set to include the members of the input data set and the encompassed calculated members of the database in there are any of the calculated members” as (col. 6, lines 30-65, fig. 3).

As to claims 35, 36, Ben teaches the claimed limitation “using the non-calculated members specified by the input data set” as (col. 6, lines 30-65).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 30, 31 and 38 are rejected under 35 U.S.C. 103(a) as being anticipated by BenHadda et al (or hereinafter “Ben”) (US 6366904) in view of Kravets et al (or hereinafter “Kravets”) (US 6363377).

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As to claim 30, Ben teaches the claimed limitations:

“parsing a received query to identify whether the query contains a query extension that indicates specifically how calculated members should be handled in processing the query” as (col. 6, lines 22-67);

“when a query directive of the query extension is identified that directs that calculated members be included in the output of the query then performing at least the steps of: determining a subset of the database for each member of an input data set specified by the query” as (col. 5, lines 60-67; col. 1, lines 1-30);

“processing the query using any calculated members of the database that is within the at least one of the subsets of the database, without the query specifying any calculated members of the database” as (figs. 3&4, col. 6, lines 30-67);

“then processing the query using the non-calculated members specified by the input data set” as (col. 6, lines 20-47);

“wherein processing the query includes generating an output data set based on the directive of the query extension” (fig. 3, col. 6, lines 22-45).

Ben does not explicitly teach the claimed limitation “when a query directive of the query extension is identified that directs that calculated members be executed from the output of the query”.

Kravets teaches filtering the output of search query to exclude pages to which a user should not have access (col. 2, lines 53-56; col. 8, lines 5-8).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Kravets’ s teaching of filtering the output of

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search query to exclude pages to which a user should not have access to Ben's system in order to allow a user to restrict displaying to a user irrelevant records or records were visited in the past so that providing the best documents that satisfy the query.

As to claim 31, Ben teaches the claimed limitation "wherein processing the query include generating an output data set to include the members of the input data set and the encompassed calculated members of the database" as (col. 6, lines 30-67).

As to claim 38, Ben teaches the claimed limitation "using the non-calculated members specified by the input data set" as (col. 6, lines 30-67).

9. Claims 15, 17-19, 28-29 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeKimpe et al (or hereinafter "DeKimpe") (US 6665682) in view of BenHadda et al (or hereinafter "Ben") (US 6366904).

As to claim 15, DeKimpe teaches the claimed limitations:

"a processor and a computer-readable medium" as a processor and computer readable device. The computer readable device is represented as a computer-readable medium (col. 4, lines 43-45);

"an operating environment executing on the processor from the computer-readable medium" as using one or more computer programs, each of which executes under the control of an operating system. The computer programs and

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operating system are all tangibly embodied in a computer-readable device. The above information shows that the operating system executing on the processor of computer readable device (col. 4, lines 40-45; col. 4, lines 55-60);

“an OLAP server executing with the operating environment and maintaining a multidimensional database” as the computer programs with operating system are comprised of instructions which when read and executed by the computers 100 and 102 cause the computer 102 or OLAP server to perform various database operations such update, insert, delete operations against one or more relational databases 118 stored on remote or local data storage device for maintaining the data in a relational database 118 (col. 5, lines 1-30; col. 11, lines 30-34),

“wherein the OLAP server processes a database query by determining a subset of the database for each member of an input data set specified by the query” as (col. 10, lines 25-67);

“including in the processing of the query any calculated members of the database that are within the at least one of the subsets of the database, without the query specifying any calculated members of the database” as (col. 10, lines 25-67; col. 11, lines 1-5);

“wherein the OLAP server generate an output data set” as (col. 10, lines 52-65).

Dekimpe does not explicitly teach the claimed limitation “to include the members of the input data set and the encompassed calculated members of the database”.

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Ben teaches displaying a result includes columns Y0 and additional columns Y1 after modifying query by adding column variables to the query. Additional columns Y1 are represented as the encompassed calculated members of the database (abstract, fig. 3, col. 6, lines 5-30).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ben's teaching of displaying a result includes columns Y0 and additional columns Y1 after modifying query by adding column variables to the query to DeKimpe's system in order to automatically extend the scope of a query search utilizing both retrieved values and association with variables not specified in the original query and further provide aids in flexibly redefining search bounds within the scope of the original query.

As to claims 17 and 28, DeKimpe teaches the claimed limitation "wherein the OLAP server receives the query from an OLAP client application via a query processor" as (col. 10, lines 20-35; col. 4, lines 40-45).

As to claims 19 and 29, DeKimpe teaches the claimed limitation "wherein the database is a relational database system" as (col. 7, lines 55-65).

As to claim 18, DeKimpe teaches the claimed limitation "wherein for each member of the input data set the OLAP server identifies, within a dimension of the database, each member's siblings, the member's descendants and the descendants of the siblings" as (col. 6, lines 35-60).

As to claim 37, DeKimpe teaches the claimed limitation “processes each non-calculated member specified by the input data set” as (col. 6, lines 35-60).

10. Claims 3-5 and 12-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over BenHadda et al (or hereinafter “BenHadda”) (US 6366904) in view of DeKimpe et al (or hereinafter “DeKimpe”) (US 6665682).

As to claims 3 and 12, Ben does not explicitly teach the claimed limitation “wherein processing the query includes processing the query with an OLAP server”.

DeKimpe teaches processing the query includes the query with an OLAP server (fig. 1, col. 10, lines 20-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKimpe's teaching of processing the query includes the query with an OLAP server to Ben's system in order to offer consistently rapid response database access, regardless of database size and complexity.

As to claims 4 and 13, Ben does not explicitly teach the claimed limitation “performing the determining step and the processing step when the query includes an extension directing an OLAP server to include calculated members” as displaying a result includes columns Y0 and additional columns Y1 after modifying query by adding column variables to the query. Additional columns Y1

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are represented as the encompassed calculated members of the database (abstract, fig. 3, col. 6, lines 5-30). The above information shows that the query includes an extension not directing a OLAP server.

Ben does not teach explicitly teach the claimed limitation "an OLAP server".

DeKimpe teaches processing the query includes the query with an OLAP server to include rows as calculated members (fig. 1, col. 10, lines 20-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKimpe's teaching of processing the query includes the query with an OLAP server to Ben's system in order to offer consistently rapid response database access, regardless of database size and complexity.

As to claims 5, 14, Ben does not explicitly teach the claimed limitation "wherein determining a subset for each member includes identifying within a dimension of the database each member's siblings, the member's descendants and descendants of the siblings".

DeKimpe teaches Cubes generally have hierarchies of data with each dimension. Members of a dimension are included in a calculation to produce a consolidated total for a parent member. Children themselves are consolidated levels, which requires that they have children. A member is a child for more than one parent, a child's multiples parents is at the same hierarchical level, allowing complex, multiple hierarchical aggregations within any dimension (col. 6, lines

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45-52). The above information shows that each member includes a dimension of the database each member's siblings, descendants.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKimpe's teaching of Cubes generally have hierarchies of data with each dimension. Members of a dimension are included in a calculation to produce a consolidated total for a parent member. Children themselves are consolidated levels, which requires that they have children. A member is a child for more than one parent, a child's multiple parents is at the same hierarchical level, allowing complex, multiple hierarchical aggregations within any dimension to Ben's system in order to provide an opportunity for optimizing multidimensional query by using hierarchical context, allow complex multidimensional queries to be built and executed faster for removing or adding a dimension of a cube.

11. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over BenHadda et al (or hereinafter "Ben") (US 6366904) in view of Kravets and further in view of DeKimpe.

As to claim 33, Ben does not explicitly teach the claimed limitation "wherein determining a subset for each member includes identifying within a dimension of the database each member's siblings, the member's descendants and descendants of the siblings".

DeKimpe teaches Cubes generally have hierarchies of data with each dimension. Members of a dimension are included in a calculation to produce a

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consolidated total for a parent member. Children themselves are consolidated levels, which requires that they have children. A member is a child for more than one parent, a child's multiples parents is at the same hierarchical level, allowing complex, multiple hierarchical aggregations within any dimension (col. 6, lines 45-52). The above information shows that each member includes a dimension of the database each member's siblings, descendants.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKimpe's teaching of Cubes generally have hierarchies of data with each dimension. Members of a dimension are included in a calculation to produce a consolidated total for a parent member. Children themselves are consolidated levels, which requires that they have children. A member is a child for more than one parent, a child's multiples parents is at the same hierarchical level, allowing complex, multiple hierarchical aggregations within any dimension to Ben's system in order to provide an opportunity for optimizing multidimensional query by using hierarchical context, allow complex multidimensional queries to be built and executed faster for removing or adding a dimension of a cube.

As to claim 32, Ben does not explicitly teach the claimed limitation "wherein processing the query includes the query with an OLAP server".

DeKimpe teaches processing the query includes the query with an OLAP server (fig. 1, col. 10, lines 20-35).

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It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKimpe's teaching of processing the query includes the query with an OLAP server to Ben's system in order to offer consistently rapid response database access, regardless of database size and complexity.

12. Claims 20, 22, 23, 25-26, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kravets et al (or hereinafter "Kravets") (US 6363377) in view of DeKimpe.

As to claims 20 and 23, Kravets teaches the claimed limitations:

"determining whether the query includes an extension directing an OLAP server to automatically exclude calculated members of the input data set during the processing of the query" as receiving a query includes terms such as I (NIST or NSF) and proposal directing an server to automatically to replace terms by nodes which contains subqueries. Each sub-query includes terms (fig. 1B & 11, col. 12, lines 60-67). The above information shows that the query has included a extension; thus server replace terms of query into nodes. This server is not OLAP server;

"based on the determination, processing the query using non-calculated members specified by the input data set" as (col. 13, lines 20-30);

"wherein processing the query includes generating an output data set based on the determination" as (col. 13, lines 20-30).

Kravets does not explicitly teach the claimed limitation "an OLAP server".

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Dekimpe teaches OLAP server (col. 4, lines 35-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Dekimpe's teaching of OLAP server to Kravets's system in order to offer consistently rapid response to database access, regardless of database size and complexity.

As to claims 22 and 25, Kravets and DeKimpe disclose the claimed limitation subject matter in claims 20 and 23, Dekimpe further teaches the claimed limitation "wherein processing the query includes processing the query with an OLAP server" as col. 5, lines 1-30; col. 11, lines 30-34).

As to claim 26, Kravets teaches the claimed limitations:

"a processor and a computer-readable medium" as a processor and disk (col. 3, lines 57-60; col.8, lines 8-10);

"an operating environment executing on the processor from the computer-readable medium" as using one or more computer programs, each of which executes under the control of an operating system. The computer programs and operating system are all tangibly embodied in a computer-readable device. The above information shows that the operating system executing on the processor from disk (fig. 1A, col. 3, lines 57-60; col. 8, lines 8-10);

"an OLAP server executing with the operating environment" as an server executing with the operating environment as shown in fig. 1B. This server is not an OLAP server

“wherein the OLAP server processes a database query by determining whether the query includes an extension directing the OLAP server” as receiving a query includes terms such as I (NIST or NSF) and proposal directing an server to automatically to replace terms by nodes which contains subqueries. Each subquery includes terms (fig. 1B & 11, col. 12, lines 60-67). The above information shows that the query has included a extension; thus server replace terms of query into nodes. This server is not OLAP server;

“based on the determination, processing the query using non-calculated members specified by the input data set” as (col. 13, lines 20-30);

“wherein processing the query includes generating an output data set based on the determination” as (col. 13, lines 20-30).

Kravets does not explicitly teach the claimed limitation “an OLAP server, and maintaining a multidimensional database).

Dekimpe teaches OLAP server (col. 4, lines 35-40). Dekimpe further teaches as the computer programs with operating system are comprised of instructions which when read and executed by the computers 100 and 102 cause the computer 102 or OLAP server to perform various database operations such update, insert, delete operations against one or more relational databases 118 stored on remote or local data storage device for maintaining the data in a relational database 118 (col. 5, lines 1-30; col. 11, lines 30-34).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Dekimpe's teaching of OLAP server and

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maintaining relational database to Kravets's system in order to offer consistently rapid response to database access, regardless of database size and complexity.

As to claim 28, Kravets and Dekimpe disclose the claimed limitation subject matter in claim 26, Dekimpe further teaches the claimed limitation 'wherein the OLAP server receives the query from an OLAP client application via a query processor' as (fig. 1; col. 12, lines 40-55).

As to claim 29, Kravets and Dekimpe teaches the claimed limitation subject matter in claim 30, Dekimpe further teaches the claimed limitation "wherein the database is relational database system" as (col. 2, lines 5-15).

13. Claims 21, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kravets et al (or hereinafter "Kravets") (US 6363377) in view of DeKimpe and further in view of Bowman (US 6169986).

As to claims 21 and 24, Kravets does not explicitly teach the claimed limitation "initializing an output data set to an empty set; copying the non-calculated members of the input data set to the output data set; and processing the query using the output data set".

Bowman teaches creating a list as an output data set that includes related terms with terms in a query and processing query using the list. The above information shows before create this list to includes related term with terms of the query, this list is empty (figs. 7 & 9, col. 13, lines 40-60; col. 14, lines 26-55).

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It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Bowman's teaching of creating a list as an output data set that includes related terms with terms in a query and processing query using the list to Kravets's system in order to produce related terms that are frequently used by other users in combination with the submitted query terms, and significantly increases the likelihood that these related terms will be helpful to the search refinement process. To further increase the likelihood that the related terms will be helpful, the correlation data is preferably generated only from those historical query submissions that produced a successful query result (at least one match).

Claim 27 is rejected under the same reason as discussed in claims 21.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Turte (US 5488725).

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Contact Information

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T. Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cam Y T Truong
Primary Examiner
Art Unit 2162
2/21/2007